

**REMARKS**

Following the telephone conference with the Examiner on March 10, 1994, applicant has amended claim 11 to reflect that the claimed DNA molecule encodes substantially the entire S1 subunit. The basis for the amendment is found at page 44 of the specification, lines 3-5, which discloses analog S1/6A in which the mature amino-terminal aspartyl-aspartate was replaced with methionylvaline. Hence, analog S1/6A included amino acids Pro3 through Phe235 of the mature S1 subunit. The mature subunit is shown in Table 2, beginning shortly after nucleotide 600, as denoted by the asterisk.

Regarding Table 2, applicant notes that it contains a minor error of three nucleotides in the region encoding amino acids 193-199. These errors were discovered when the original clone pPTX42, copies of which were deposited into the ATCC well before the effective filing date of this application, was resequenced in 1990. Accordingly, applicant requests amendment of Table 2, as outlined above. A declaration by Dr. Jerry Keith is attached as APPENDIX 1 stating that the amended sequence in fact was obtained from pPTX42. Substitute page 22 is identical to original page 22 except in the region of amino acids 193-199, and thus it contains no new matter.

Applicant again respectfully requests that, if there are no other applications or patents claiming DNA encoding applicant's claimed 9 position mutant, the claims be allowed and forwarded to issue. If an interference is declared, applicant respectfully requests that the count of the interference be applicant's claim 11, as amended (but

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without the recitation of the sequence of applicant's Table 2), namely:

A DNA molecule encoding a substantially detoxified mutant of the mature S1 subunit of *Bordetella pertussis* toxin, said mutant comprising amino acids proline 3 to phenylalanine 235 of the mature S1 subunit, wherein said DNA encodes a mutation in which arginine 9 is replaced with another amino acid.

Applicant concurrently petitions for another two month extension of time to enable this paper to be considered. The Commissioner is authorized to debit the undersigned's Deposit Account No. 19-0741 for the extension fee and any underpayment or credit any overpayment. If additional extension(s) of time are required, applicant expressly petitions for such extension(s) and the Commissioner is authorized to debit the undersigned's Deposit Account No. 19-0741 for the requisite fee.

The Examiner is courteously invited to contact the undersigned should the Examiner have any questions which might be resolved over the telephone.

Respectfully submitted,

April 20, 1994  
Date

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## Complete Nucleotide Sequence of Pertussis Toxin Gene

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